

Akira NOGUCHI* & J. K. BARTLETT**: Two species of the
genus *Papillaria* (Musci) from Rarotonga,
Cook Archipelago, Polynesia

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Papillaria 属(蘚類)の2種

The bryophyte flora of the Cook Archipelago situated in the southwestern part of Polynesia (160°W. Long. 20°S. Lat.) is little known. In September of 1981, the junior author visited Rarotonga Is., the main island of the archipelago for bryological studies and made a rich collection of mosses. The present paper is restricted to the reporting of two species of *Papillaria*, namely, *P. intricata* (Mitt.) C. Muell. et Broth. and *P. crocea* (Hamp.) Jaeg., both new to the moss flora of S.W. Polynesia. A full account of the collection is prepared.

Papillaria intricata (Mitt.) C. Muell. et Broth. (Fig. 1, a-f)

Hab. Polynesia. Cook Archip. Rarotonga Is. ca. 300 m alt., on *Hibiscus* in dry forest, Sept. 12, 1981, coll. J. K. Bartlett 28417b.

According to H.O. Whittier (1976), the presence of *P. intricata* in the Society Islands, southeastern Polynesia has remained in question, although he suggested that finding of *P. intricata* in the future could be expected.

Meteoriump intricatum Mitt., the basionym of *Papillaria intricata* (Mitt.) C. Muell. et Broth. was published based on the specimen from Samoa, but the type was not available in the Mitten Herbarium of the New York Botanical Garden (NY). A single specimen of *P. intricata* from Fiji, probably the one cited by Mitten (Seemann 838, in 1860), was the only one found. The plants from the Cook Archip. are smaller than Seemann's ones cited above, but are similar to those from Samoa, Fiji, New Caledonia and New Zealand that the senior author has examined. In general aspect this species is closely related to *P. semitorta* (C. Muell.) Jaeg., but the basal auricles of leaves are smaller than those of *P. semitorta*, though they are considerably variable in size (Fig. 1, a, d, e, f).

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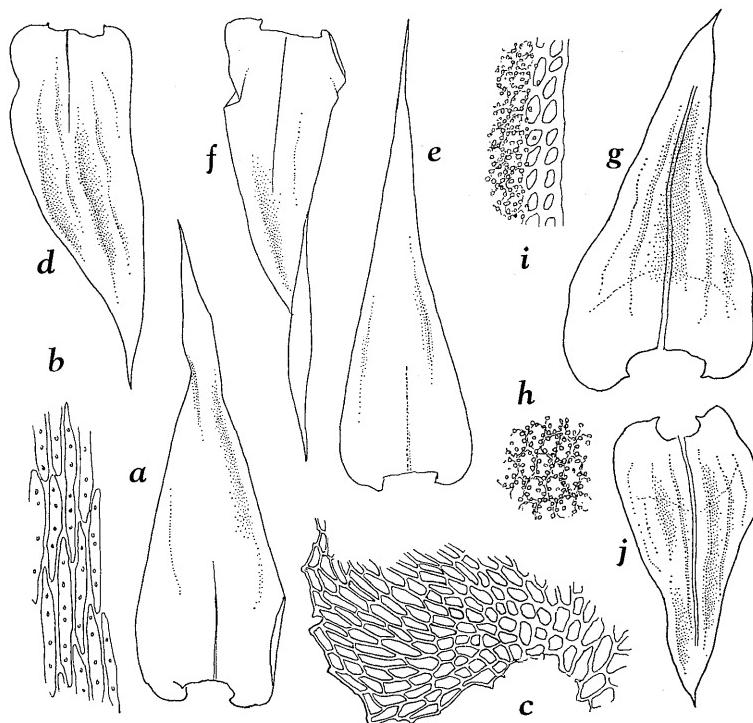


Fig. 1. a-f. *Papillaria intricata* (Mitt.) C. Muell. et Broth.; g-j. *P. crocea* (Hamp.) Jaeg. a, e: Leaves of the creeping stem, $\times 34$. b, h: Cells from middle of stem-leaf, $\times 385$. c: Basal angle of stem-leaf, $\times 250$. d, f, j: Branch-leaves, $\times 34$. i: Mid-margin of stem-leaf, $\times 385$. a-d were drawn from the specimen from Rarotonga Is., Cook Archip., Bartlett 28417b (in Herb. Nog.); e, f from Viti Levu, Fiji, Seemann 838, NY; g-j from the specimen from Rarotonga Is., Cook Archip., Bartlett 28417c (in Herb. Nog.).

This species is now known from Samoa, Fiji, Tonga, New Caledonia, New Zealand, and Solomon Archip. and, according to E. B. Bartram (1945) and D. R. Smith (1976), it extends westward as far as Marianas. It may be noteworthy that there is a collection of *P. intricata* from Rarotonga, Cook Archip. made by T. F. Cheeseman in 1899 in NY.

The outline and areolation of leaves of the author's collections from Rarotonga and from Fiji were shown in Fig. 1, a-f.

Papillaria crocea (Hamp.) Jaeg. (Fig. 1, g-i)

Hab. Polynesia. Cook Archip. Rarotonga Is., ca. 300 m alt., on *Hibiscus* in dry forest, Sept. 12, 1981, coll. J.K. Bartlett 28417c, 28419c, 28420b.

The plants from the Cook Archip. agree in many ways with the collections from the surrounding countries such as Samoa, Fiji and New Zealand. The plants no. 28420b, cited above, are unusually slender.

This species is widely distributed from East Australia, Tasmania, New Zealand and Norfolk to Fiji and Samoa northward, across New Caledonia, and extends westward as far as India across Indonesia, Philippines, and the Malay Peninsula. The outline and areolation of leaves of the collection from Rarotonga were illustrated on Fig. 1, g-i.

Both *P. intricata* and *P. crocea* are quite common in upland bush areas of Rarotonga and are found in similar habitats and often occur together. Most frequently they grow in dense tufts on *Hibiscus*, *Metrosideros* and *Fitchia* on dry ridges of the volcanic peaks; the altitude range is from 30 to 700 m. Both species were often associated with such mosses as *Mitthyridium samoanum* (Schultze-Motel) H. Robins., *Macromitrium incurvifolium* (Hook. et Grev.) Schwaegr., *Sympysodontella cylindriacea* (Mont.) Fleisch., *Ectropothecium* spp. Although *P. intricata* and *P. crocea* occurred in great abundance on the island, no sporophytes were found, even upon careful search.

Literature cited

- Bartram, E.B. 1945. Pacific outpost mosses. *Bryologist* 48: 45-53. Smith, D.R. 1976. Mosses of Micronesia. *Journ. Hattori Bot. Lab.* 40: 41-85. Whittier, H.O. 1976. Mosses of the Society Islands. Gainesville, Florida.

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サガリゴケ科の蘚類である *Papillaria intricata* (Mitt.) C. Muell. et Broth. はメラネシアからニューカレドニア・ニュージーランドにひろく分布し、東の方はサモア諸島やトンガ諸島まで生育しているとされている。もっともポリネシアのソシエテ諸島(大きい島はタヒチ島)にはそれらしい報告もあるが、その確かな存在は疑問視されてきた。トンガ諸島とソシエテ諸島との中間で、ポリネシアの西南端に位置するクック諸島のラロトンガ島にはたくさんあることが分かった。また *Papillaria crocea* (Hamp.) Jaeg. もタスマニア・濠州東部・ニュージーランド・サモア諸島から西はマライ半島にわたる地域に生育するが、ラロトンガにもたくさんあることが知られた。いずれもポリネシアからは新しく報告されるものである。